MIT's Oldest and Largest Newspaper

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The Tech
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Thursday, February 27, 2020

WEATHER, p. 2

THU: 54°F | 29°F
Breezy with Rain.

FRI: 38°F | 27°F
Mostly Sunny and Breezy.

SAT: 35°F | 22°F
Mostly Sunny.

MIT Dining to increase Class of 2024 meal plan minimums

Open forum to be held in Coffeehouse Lounge on third floor of Student Center from 6-7 p.m. March 2

By Wenbo Wu and Margaret Rodriguez
STAFF REPORTERS

Mark Hayes, director of campus dining, and Peter Cummings, executive director for administration at the Division of Student Life (DSL), presented updates on the progress of the Meal Plan Working Group at the Dormitory Council (DormCon) meeting Feb. 20. Students can share their thoughts in an open forum 6–7 p.m. in W20-308 March 2.

MIT Dining will employ a phased implementation beginning with the Class of 2024 this fall: the meal swipe commitment will increase to 225 for first-year students, 190 for sophomores, and 160 for juniors and seniors.

The meal swipe commitment will not change for current MIT students. However, dining dollars will be optional for all students.

Cummings said at the DormCon meeting that the new meal plans will reduce the range of the price per meal from between the current $9.60–$14.20 to $14–$15.

Making dining dollars component optional would reduce the price of the 125-swipe plan by "about eight percent compared to last year," Hayes said in an interview with *The Tech*. Students on a meal plan would then be able to purchase dining dollars separately, allowing them to still enjoy the five percent discount.

Hayes said that New Vassar will address the issue of students' ability to eat all their meals with longer hours of operation: "There will be a pick-and-go breakfast location; you can come in and grab and go for a breakfast swipe. Brunch will be open from 9:30 a.m. to 2 p.m. Dinner will be open from 5–9 p.m."

Meal Plan, Page 2

ETHAN SIT — THE TECH

Andrew Reilley '19 discusses career opportunities with Jakob Coray '20 at XFair Tuesday, held in the Media Lab by TechX and Tau Beta Pi.

Co-chairs of NASEM working groups have released final reports

Team to implement enhanced sexual misconduct prevention education

By Kerri Lu
NEWS EDITOR

The four MIT working groups created following the National Academies of Science, Engineering, and Medicine's (NASEM) report on sexual harassment of women in academia released their final reports Feb. 4.

Chancellor Cynthia Barnhart PhD '88 announced the report and "MIT's plan for wide-ranging action" against sexual and gender harassment in an email to the MIT community.

The four NASEM working groups are Training and Prevention, Leadership and Engagement, Policies and Reporting, and Academic and Organizational Relationships. The working groups presented preliminary recommendations at a community forum on sexual misconduct Nov. 5.

The working group co-chairs have formed an implementation team that will work closely with Institute Community and Equity Officer (ICEO) John Dozier to enact the working group recommendations. More members will be added to the implementation team in the coming weeks, Barnhart wrote.

MIT will implement a "revised policy for handling complaints of discriminatory or harassing behavior by faculty or staff" and release anonymized information about the complaints. Barnhart wrote that MIT is also "strengthening whistleblower channels and non-retaliation and confidentiality protections."

NASEM, Page 2

Changes made to political science undergraduate committee

The MIT political science department has announced changes to the undergraduate committee.

Professor Ben Schneider will be minor advisor, Professor Bernardo Zacka '05 concentration advisor, and Professor Charles Stewart undergraduate committee chair.

Katherine Hoss, undergraduate administrator, wrote in an email to undergraduate political science students Feb. 10 to "make sure that you are communicating with the appropriate advisor about your program."

Political science "continues to be a place where undergraduates can find an interesting set of subjects that can provide a broad perspective about the larger political context in which science and engineering are practiced today," Stewart wrote in an email to *The Tech*.

Stewart wrote that the political science department "will be offering a number of subjects in the fall that should be of interest to students who wish to learn more about the upcoming presidential election."

Stewart added that the political science department recently changed its major requirements to make the undergraduate thesis optional.

"Without a thesis requirement, we hope to provide greater flexibility to students who wish to deepen their understanding of politics through pursuing a major," Stewart wrote.

—Richter Jordaan

Sipser to step down as School of Science dean

Sipser highlights Aging Brain Initiative

By Jessica Shi
SENIOR EDITOR

Michael Sipser intends to step down as dean of the School of Science on June 30, "assuming a suitable successor is found by then," according to Provost Martin Schmidt PhD '88 in an email to the MIT community. Sipser has served as dean since 2014, after several months as interim dean and 10 years as mathematics department head.

The Tech sat down with Sipser to discuss his time as dean and his thoughts on what is ahead. This interview has been lightly edited for length and clarity.

***The Tech*: Why are you stepping down as dean at this time?**

Michael Sipser: This is my sixteenth year doing administration. The short answer is that there are other things I want to do. I've loved being dean, but I want to get back to research, and I want to devote more time to teaching. I love the students here.

***TT*: Which accomplishments as dean are you most proud of?**

Sipser: Supporting the activities of the community of people in the School of Science has been, for me, the most rewarding and most important thing I've done.

The thing that comes to my mind is the Aging Brain Initiative. Neurological diseases of people when they get older affect a very large fraction of everyone worldwide. It's such an important problem, and I think MIT could do more, so I put some of my own resources and time as dean into helping that grow.

***TT*: I think that for a lot of students, what a dean does is sort of mysterious. Using the Aging Brain Initiative as an example, can you go into more detail on your role?**

Sipser: Being a dean has many sides to it, so this is only going to be one piece.

First, I made my own sense of the importance of this problem clear to the people who were already working on it. When somebody's work is recognized by higher levels in an organization, that gives

Sipser, Page 5

VICTORIA DZIECIOL — THE TECH

***The Art of Memory* exhibition explores the history of four Italian towns** through architecture, on display until March 31 in Rotch Library, room 7-238.

IN SHORT

Submit your applications to become a **first-year associate advisor** and/or **orientation leader** by 5 p.m. Friday.

The deadline to **submit events for CPW** is Sunday.

Undergraduate registration for **fourth quarter PE classes** opens 8 a.m. March 4.

The last day to **add a full-term subject** is March 6. Make sure to plan ahead and meet or contact your advisors ahead of time! And don't forget to hit submit after your advisor has approved.

The **MIT Excellence Awards and Collier Medal Ceremony** will take place March 12 from 3 p.m.–4 p.m. in Kresge.

The deadline to submit a nomination for the **2020 MIT Awards** is March 20.

Interested in **joining *The Tech*?** Stop by for dinner Sunday at 6 p.m. or email join@tech.mit.edu.

Send news and tips to news@tech.mit.edu.

ONWARD
Pixar tires some magic.
ARTS, p. 8

ZACK VILLERE
Candid and cool. **ARTS, p. 9**

SWEAT
Tensions rise among steel workers.
ARTS, p. 8

EDO EXHIBIT
Insightful Japanese art and history. **ARTS, p. 9**

ME VS. ME
Dealing with the stress of competing.
CAMPUS LIFE, p. 3

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WEATHER

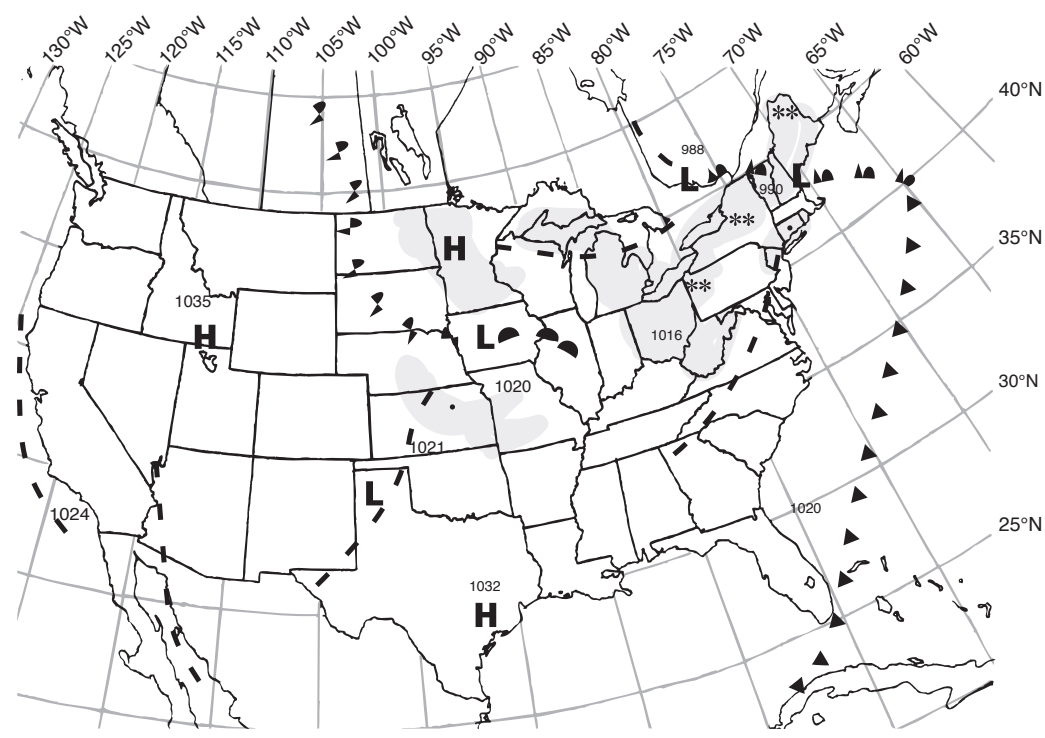
Leap day saves world from cruel fate of bookkeeping nightmare

By Conrad Goffinet

The leap day. Be it ever so humble. Every four years, the days of February see a single addition appended to their ranks (excluding years divisible by 100 but not 400). This seemingly odd piece of the Gregorian calendar plays an important role in bookkeeping, especially for meteorologists. Were the leap day to not exist, meteorological records would be thrown out of whack in the matter of a century. Each day would be shifted approximately one month later, so records that were once held in June would have to be compared to days in July. The humble leap day allows us to compare temperatures in August of 1890 to temperatures in August of 1990, which is no trivial thing. Because of the heroic leap day, climatology is a science of studying the climate, and not an art of figuring out which days correspond across years. The leap day, however, is not perfect. Every 3,236 years, the Gregorian calendar will jump one day ahead of where it ought be. But considering its simplicity (and the fact that this error rate won't matter to anyone alive today), the leap year does more than well enough. So here's to you, leap year: hero of this year and every year.

Extended Forecast

Today: Breezy with an east wind of 16-22 mph. Chance of precipitation 90%. High near 54 °F (12 °C).
Tonight: Partly cloudy with a low of 29 °F. (-2 °C). Wind gusts of up to 32 mph.
Friday: High near 38 °F (3 °C), with breezes blowing 17-21 mph. Low of 27 °F (-3 °C) at night.
Saturday: Mostly sunny with a high near 35 °F (2°C). Temperatures drop to 22 °F (-6 °C) at night.
Sunday: Sunny with a high near 34 °F (1 °C). Clear skies at night with a low of around 23 °F (-5 °C).



Situation for Noon Eastern Time, Thursday, February 27, 2020

Weather Systems	Weather Fronts	Precipitation Symbols			Other Symbols
			Snow	Rain	
H High Pressure	Trough	Showers	* ▽	• ▽	Fog
L Low Pressure	Warm Front	Light	*	•	Thunderstorm
§ Hurricane	Cold Front	Moderate	**	••	Haze
	Stationary Front	Heavy	⁂	∴	Compiled by MIT Meteorology Staff and *The Tech*

MIT Dining operating costs expected to increase next fall

Meal Plan, from Page 1

The changes will also address Maseeh's lunch rush issues. "With New Vassar being an earlier lunch/brunch location, we think we will be able to capture more lunch swipes," Hayes said.

Hayes added that New Vassar will contain 10 cooking pods, self-contained cooking stations within its kitchens.

MIT Dining operating losses are expected to increase to $2.6 million for the next academic year, Cummings said at the meeting.

Cummings highlighted two factors that will cause the cost increase: adding the dining hall at New Vassar and closing Burton-Conner. There are currently about 120 BC residents opting into the meal plan, and revenues will decrease when these residents move out, Cummings said.

Cummings said that MIT has always subsidized dining and DSL is "not against the idea" that costs shouldn't be placed upon students.

Two primary challenges to campus dining were balancing value and quality and breaking the cycle of dissatisfaction, Cummings said.

"MIT's dining system runs at a deficit, making re-investment difficult," the working group's website writes.

Cummings said that high operating costs, limited participation, and the proximity of dining options and barriers to quick meal service were three causes of the campus dining challenges.

Discussions at the meeting also included whether the high-end option of having 19 meals a week in the 260 plan should be kept.

"These are still just ideas, they are taking shape, they are up for discussion input," Cummings said.

Student groups to contribute to training

NASEM, from Page 1

In addition, MIT's five schools and College of Computing will appoint senior staff to "advance diversity, equity, inclusion, and community efforts" and build a "network of support [and] advocacy" on campus, Barnhart wrote.

Barnhart wrote that MIT will offer increased in-person and online sexual harassment prevention education, including a new online training module this spring. MIT also plans to hire more sexual harassment prevention educators to "meet growing campus demand for this targeted education," Barnhart wrote.

MIT has recently increased staffing in Violence Prevention and Response (VPR), Student Mental Health and Counseling Services, and the newly-created Institute Discrimination and Harassment Response (IDHR) office.

Barnhart wrote that an "Institute-wide committee of staff, faculty, students, postdocs, and alumni" will draft an Institute values statement to create a foundation for cultural change at MIT.

The Tech met with several members of the implementation team to discuss how the NASEM working group findings will affect students.

Training and Prevention co-chair Sarah Rankin said the new IDHR office will have an immediate impact on students because it will serve as a "centralized resource" for students, faculty, and staff facing harassment-related issues. Rankin said the effectiveness of IDHR will be measured through utilization rates, student awareness of the office in campus climate surveys, and an annual report for increased transparency.

Rankin said that MIT's current online sexual misconduct prevention training requirement was implemented in response to recommendations by the Institute Committee on Sexual Misconduct Prevention and Response.

The implementation team is developing a "menu... of various topics related to gender and sexual harassment" that faculty, students, and staff "can use to complete their training and professional development," Rankin said, adding that undergraduate and graduate students have been involved in building the new curriculum.

Rankin emphasized the importance of "skill-building" through in-person workshops with specific "cohorts," such as labs, athletic teams, and living groups.

Kate McCarthy, associate dean for student support and wellbeing, said that student groups like Pleasure and Active Minds will continue to contribute to MIT's sexual misconduct prevention training.

For instance, IDHR and VPR have worked with Pleasure educators to provide sexual misconduct prevention training to student-athletes in accordance with National Collegiate Athletic Association requirements, McCarthy said.

Leadership and Engagement co-chair and MindHandHeart (MHH) Executive Administrator Maryanne Kirkbride said that MHH has worked with "each and every academic department" to create a "more welcoming and inclusive environment." Kirkbride highlighted the MHH Community Cards initiative as an effort to make MIT's culture more inclusive.

According to the MHH website, the Community Cards "showcase actions — both big and small — that departments can take to strengthen their communities." The cards cover topics in academics, community, inclusion, and wellbeing, including healthy social media use and stopping microaggressions.

Academic and Organizational Relationships co-chair Tim Jamison said that a committee of students, faculty, and staff will work with Dozier in the search process for the six staff members to lead diversity and inclusion efforts in MIT's five schools and the College of Computing.

Jamison also emphasized that students will play a "critical part" in developing MIT's statement of shared values.

Vice President for Human Resources Ramona Allen wrote in a Dec. 4 email to MIT staff that they could provide feedback to MIT leadership through an anonymous form or through the new Staff Conversations initiative. The conversations, open to staff only and limited to 25 participants each, would be "facilitated by external consultants who have experience working with staff in higher education institutions," Allen wrote.

The Spring 2019 Association of American Universities Campus Climate Survey on Sexual Assault and Misconduct found that 7.2% of all MIT students, including 18.4% of female undergraduates and 8.3% of female graduate students, have experienced nonconsensual sexual contact.

Members of the MIT community can contact the implementation team at nasem-cochairs@mit.edu.

ME VS. ME

Competition, sanity, and self-worth

Fluctuating between being caring too much and not caring at all

By Joanna Lin
EDITOR

The Harvard-MIT Math Tournament, which happened a few weeks ago, is one of the most prestigious math competitions for high school students, attended by mathletes from around the world. Having them around campus reminded me that I was one of them, once upon a time. The competitive math community was one of the anchors in my adolescence, but the nature of competitions made me develop an aversion to high-stakes situations.

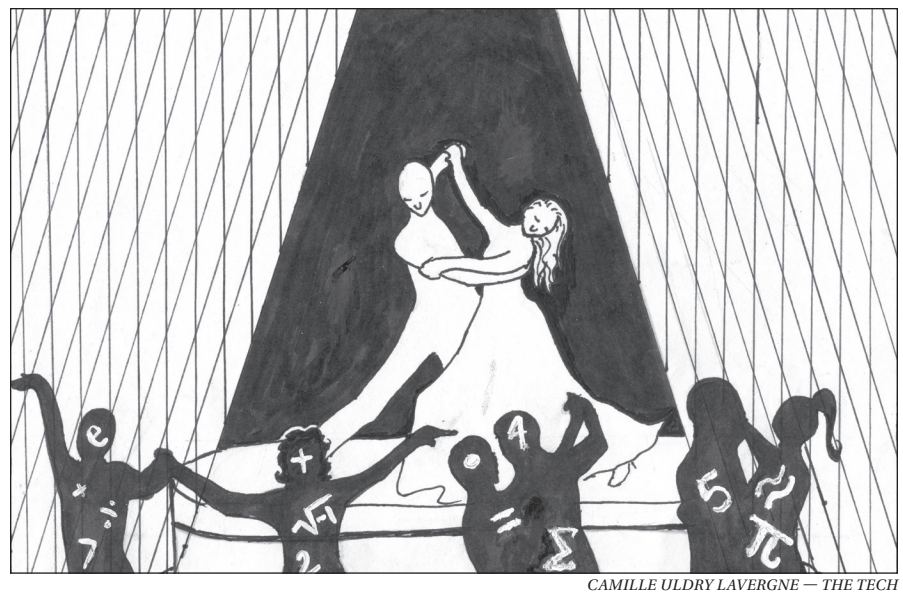
The fun of untangling the quirks of math problems was lost to me probably in the middle of sophomore year.

Every time I sat down to a packet of questions in a math competition, my fingers would run cold, and my entire body would become tense. It felt like everything was resting on my ability to answer these questions. Not only would doing well allow me to move onto the next rounds, but it was also important (apparently) for showing colleges that I had a longitudinal and prolific run in an extracurricular activity, as well as validating all the time I spent on it. That pressure became a mental block, making it impossible for me to come up with clear and efficient solutions. Talking with my teammates afterwards was always me realizing my failures, instead of a discussion on our solutions to each problem. The fun of untangling the quirks of math problems was lost to me probably in the middle of sophomore year. I became uncomfortably skilled at nodding and smiling when someone explained their proof to me, when I understood none of it.

If you don't care as much as the other competitors, you don't deserve to win as much as they do.

Now, as part of the MIT Ballroom Dance Team, I compete around the New England area a few times each semester. Supposedly a way to showcase all the figures and technique we work on behind the scenes, I've found that my mindset for ballroom competitions avoids thinking about those things at all. Yes, getting marked would be nice, and I'd advance to the next round, but I constantly repeat to myself that "this doesn't matter." My success at ballroom competitions doesn't bear weight in my academic success, my career path, or my social life. I try to directly focus on having fun, lowering my expectations for ribbons.

It can seem on the outside that I don't care. BDT is a competitive team, after all, and there are ways for me to pursue dance in a non-competitive setting. I realize that I should be making an effort towards advancing and winning. I should constantly want to do better, to outcompete all the other couples on the floor, *and* to have fun while I'm at it. If you don't care as much as the other competitors, you don't deserve to win as much as they do. But I know that if I worry about the significance of each round, I will freeze, causing a lot more problems for both my partner and myself. Superficially, lowering my expectations makes it easier to stomach getting cut from rounds.



CAMILLE ULDRY LAVERGNE — THE TECH

The ghosts of my math contest days coming back to haunt me at ballroom competitions.

I don't believe that having an apathetic mindset will lead to success (in anything, really), but I also don't think that being too serious and cutthroat will make the journey anything but miserable. I love the ballroom team. I love the practices, the waking up early to go to competitions, and the people who have my back no matter what. Right now, I can't handle the extra disappointment, so I'm actively ignoring it. Is it wrong if it saves me from putting excess pressure on myself? Here's to hoping it's possible to strike a balance between the two; I just haven't found it yet.

Solution to Muses
from page 10

1	2	3	6	5	4
2	3	4	1	6	5
6	1	2	5	4	3
5	6	1	4	3	2
4	5	6	3	2	1
3	4	5	2	1	6

Solution to Around
from page 10

T	A	C	T				R	A	M		H	A	H
I	G	L	O	O			H	O	L	E		O	W	E
P	O	I	N	T	S		I	D	O	L		L	A	X
		M	A	T	T		T	E	N			D	I	E
A	M	B	L	E	R		T	O	G	O		I	T	S
L	I	E		R	A	S	H			L	P	N		
O	D	D	S		N	O	E	S		D	O	G	I	E
H	A	T	E		D	U	C	T	S		E	T	N	A
A	S	H	E	S		L	E	A	K		T	H	U	S
		E	K	E			I	B	I	D		E	R	E
L	A	W		E	A	R	L		M	I	F	F	E	D
A	L	A			L	E	I		P	E	A	L		
N	I	L		C	O	I	N		S	T	R	O	N	G
C	A	L		H	U	N	G			S	C	O	O	P
E	S	S		I	D	S					E	R	R	S

Solution to Inspired
from page 10

7	1	2	8	6	4	5	9	3
5	9	6	3	7	2	1	8	4
8	3	4	9	1	5	2	7	6
1	5	9	4	3	8	7	6	2
3	6	7	2	5	1	9	4	8
2	4	8	6	9	7	3	1	5
9	2	5	1	8	6	4	3	7
6	7	1	5	4	3	8	2	9
4	8	3	7	2	9	6	5	1

Solution to Awestruck
from page 11

3	4	7	9	2	5	6	8	1
8	9	3	5	7	1	2	4	6
4	5	8	1	3	6	7	9	2
1	2	5	7	9	3	4	6	8
5	6	9	2	4	7	8	1	3
6	7	1	3	5	8	9	2	4
7	8	2	4	6	9	1	3	5
9	1	4	6	8	2	3	5	7
2	3	6	8	1	4	5	7	9

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GUEST COLUMN

Beavers for Bernie: four stories, one message

Student advocates outline their support for Sanders

By Isabella Gómez, Mario Melendrez Contreras, Peter Scott, and Abenezer Samuel

We are four MIT students who are members of Beavers for Bernie. Beavers for Bernie is part of a network of college student groups working towards putting Bernie Sanders in the White House. The movement Bernie started back in 2016 has brought together a broad coalition from different races, creeds, sexualities, ages, and income levels. There are different aspects of this movement that have inspired each of us to volunteer our limited time. However, we are all unified in being sick of the status quo.

Isabella Gómez ’19

I am originally from the southern Texas border, and many people in my community live their lives in constant fear that their families could be separated with something as insignificant as a traffic stop. This same fear permeates through our community and makes it difficult for families to get healthcare and participate in our democracy. I support Bernie Sanders because he is the only candidate who has promised to break up Immigrations and Customs Enforcement, stop deportations, and reinstate Deferred Action for Childhood Arrivals to recipients and their parents.

Another huge reason I support Tío Bernie is because of his commitment to fight for “Medicare for All” and provide healthcare to everyone in this country as a human right. A family friend of mine had to start a GoFundMe just to afford cancer treatment for her husband. I no longer want my community to suffer from severe health issues coupled with crippling debt in the current system. Everyone deserves health care regardless of income level, employment status, or immigration status. Healthcare is a human right!

Mario Melendrez Contreras ’19

As the son of immigrants and a Chicano from the southern Californian border, I have decided to support Bernie Sanders for president in 2020. To me, Bernie is the only candidate with a real grassroots movement fighting for working families in this country. We are fighting for love, freedom, and justice this election cycle.

Love is when we ensure universal healthcare so that our families can get the healthcare they deserve. 23% of people in my congressional district do not have health insurance. This doesn’t include the millions of others who are underinsured and cannot afford their medical care. In the richest country in the world, veterans, mothers, fathers, and children are dying to prioritize the profits of the ultra-wealthy. It is not radical to join the rest of the world and ensure that our people lead dignified, healthy lives.

Freedom is when we cancel student debt so that we remove a burden off of an entire generation. 73% of the benefits from debt cancellation will go to the bottom 80% of Americans. In addition to this, African-American and Latino students hold the most debt, so cancelling student debt would actually cut the racial wealth gap from 12:1 to 5:1.

Justice is when we ensure a healthy planet for our grandchildren and future generations. We will transform our energy system to be 100% renewable, not for ourselves, but for future generations. We will create millions of jobs in order to transform our energy infrastructure and ensure a just transition for workers in the energy industry.

Bernie has been morally consistent ever since he entered the political arena as a college student at the University of Chicago, where he was arrested for protesting racial segregation in housing. As Mayor of Burlington, he supported a Gay Pride parade in 1983 and declared the day of the parade Lesbian and Gay Pride Day. Bernie supported a woman’s right to choose even before Roe v. Wade.

Vote for a movement fighting for love, freedom, and justice, led by an honest man who has been on the right side of history since the ’60s. Vote for Bernie on March 3rd in the Massachusetts Democratic Primary.

Peter Scott ’20

Bernie is fighting for the strongest “Medicare for All” (M4A) proposal out of all of the candidates. Healthcare is literally a life or death issue in this country. A recent Yale study showed that M4A would save 68,000 lives (along with $450 billion) annually. Bernie is the one we can trust to fight for this proposal because of his unparalleled consistency throughout the years and his lack of ties to big money interests, including the private healthcare industry.

M4A would help my family massively. One person in my family struggles with some mental health issues, and we have to cover all of the therapy expenses ourselves out of the fear that private insurance companies would not give him health insurance if they knew about his issues. With Bernie’s M4A, this issue would not exist — mental healthcare would be free and no one would be kept off the plan for any reason. We also pay an exorbitant amount for prescription drugs, and Bernie will fight to cap prices at no more than $200 per year. Bernie is also the only candidate to propose relieving all medical debt, which should not exist in the first place in any civilized society. Americans have dealt with the greed of the private health insurance industry for so long that many of us are convinced that there is no alternative. However, there is, and Bernie Sanders is the one we can trust to bring us up to speed with the rest of the developed world.

> **Bernie is the only candidate with a real grassroots movement fighting for working families in this country.**

Abenezer Samuel ’20

To put it plainly, my support for Bernie is not particularly sourced from his policy, record, or personhood. My support stems from the shift in the psyche of the people that Bernie’s movement is a product of. People are sick and tired of feeling disenfranchised. Sick and tired of a class of elites that has been gaslighting them into believing that we live in an actual democracy where power is decentralized to the people. Unlike other countries, ours responds to the atrocities of neoliberalism by organizing a movement with egalitarian and inclusive guiding principles.

This movement inspires everyday people to take their destinies — and those of their neighbors — into their own hands and run up against oligarchic, establishment congressional incumbents nationwide. People with full-time jobs are using their valuable free time to go door-to-door and be the arms and legs of the campaign. The formerly apathetic and pessimistic have glints of hope in their eyes. And lastly, this movement has turned a cynical critic of electoral politics, an armchair revolutionary, into a footsoldier of a grassroots campaign, giving him the audacity to hope and aspire. Therefore, my MIT brothers and sisters, be a part of history. Vote for Bernie on March 3rd!

‘All the power to all the people.’

COURTESY OF ISABELLA GÓMEZ, MARIO MELENDREZ CONTRERAS, PETER SCOTT, AND ABENEZER SAMUEL

Four student members of Beavers for Bernie (clockwise from top left: Gómez, Scott, Samuel, and Contreras) voice their support.

OPINION POLICY

Editorials are the official opinion of *The Tech*. They are written by the Editorial Board, which consists of Publisher Nathan Liang, Editor in Chief Kristina Chen, Managing Editor Ivana Alardin, Executive Editor Áron Ricardo Perez-Lopez, and Opinion Editor Jen Fox.

Dissents are the signed opinions of editorial board members choosing to publish their disagreement with the editorial.

Letters to the editor, **columns**, and **editorial cartoons** are written by individuals and represent the opinion of the author, not necessarily that of the newspaper. Electronic submissions are encouraged and should be sent to *letters@tech.mit.edu*. Hard copy submissions should be addressed to *The Tech*, P.O. Box 397029, Cambridge, Mass. 02139-7029, or sent by interdepartmental mail to Room W20-483. All submissions are due by noon four (4) calendar days before the date of publication.

Letters, columns, and cartoons must bear the authors’ signatures, addresses, and phone numbers. Unsigned letters will not be accepted. *The Tech* reserves the right to edit or condense letters; shorter letters will be given higher priority. Once submitted, all letters become property of *The Tech*, and will not be returned. Letters, columns, and cartoons may also be posted on *The Tech*’s Web site and/or printed or published in any other format or medium now known or later that becomes known. *The Tech* makes no commitment to publish all the letters received.

Guest columns are opinion articles submitted by members of the MIT or local community.

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Sipser hopes MIT 'continues to ask the really big questions in science'

Sipser, from Page 1

them more confidence that they're going to be supported.

I talked about that work when I spoke with other members of the administration, so people knew that I believed that this was going to be a priority for the school. I spoke to donors about raising money.

So it's a combination of all of that: helping ideas to coalesce and become more visible.

***TT*: How would you describe the current research landscape of the School of Science?**

Sipser: Science at MIT is very healthy. There's a tremendous amount of exciting things going on, whether it's detecting gravitational waves, finding exoplanets, or editing genes.

Broadly speaking, you can think of science as breaking down into curiosity-driven research and solutions-driven research. There's some pressure from various funding sources for solutions-driven research, as opposed to just expanding knowledge as dictated by the tastes of the people we hire.

MIT has historically had a very good mix of those two approaches. It's important that we maintain that and not shift too far toward the more applied side because fundamental research is what leads to new applications down the road and helps us understand our world.

***TT*: Do you think MIT is moving in the right direction with its growing emphasis on computing research, especially in artificial intelligence? How do you envision the School of Science fitting into that picture?**

Sipser: Artificial intelligence has clearly been a game-changing technology over the last decade. MIT has to be invested in it because it's affecting almost everything.

More and more of science [involves] accumulating vast amounts of data, and the question is how do you understand all that data? How do you use it to make predictions? One approach is to use machine learning. AI has proven that it can discern patterns. It's only a tool, but it still helps you see things that you wouldn't necessarily be able to see otherwise. I think we are going to be engaged with the College of Computing around those sorts of things.

There are other things besides artificial intelligence. Quantum computing, for example, has become a very popular field these days, and that touches the School of Science in other ways.

***TT*: You've been dean of the School of Science since 2014, and before that you were the mathematics department head since 2004. What drew you towards administration?**

Sipser: I ask myself that sometimes. I guess the best answer is that first of all, I love science. And I also really like scientists.

Even though I had never imagined being in any of these roles before I started as math department head (I was very surprised when I got asked), I found that I was having some success, and so that led me to feel encouraged and to continue.

When the opportunity to become dean came up, I realized that the job is different because you're somewhat removed from any particular community. Of course you have the broader community of your entire school, but that's a more distant relationship.

With that recognition, but still an interest in broadening the kinds of scientific activities that I would be overseeing, it was something I wanted to try.

***TT*: So do you think you made the right decision to be dean?**

Sipser: [Laughs.] It's hard to say. You only get to live your life once. I think there's much that I look back on with pleasure, and I feel some personal satisfaction, but I do—

I have no regrets at all about the time I was math department head. That was, for me personally, an unqualified success. Being dean was a bit of a challenge for me. It's a very hard job. And I think if I have a regret around that, it's that I had very little time left over to do anything else.

I continued to teach. *[Sipser teaches 18.404 (Theory of Computation) each fall, which in its most recent offering had 227 students.]* I think some other deans might teach as well, but I don't think anyone teaches a large class. I like interacting with the students. I refused to give that up, even though it made my schedule crazy.

But time to do research was almost nonexistent. The fact that I was giving up years of my career where I could do essentially no research — that was a big sacrifice.

***TT*: Do you have specific post-deanship plans?**

Sipser: I have research ideas that I want to explore of a mostly mathematical, theoretical computer science nature. But I have to get back into it. There's a certain amount of rebooting to start to think about mathematics again.

When I have some time, I think I'd like to work with the department and also more broadly within the Institute on rethinking what the math GIRs should look like. I haven't done the analysis yet, but I know there's a need, for example, for students to know more probability and statistics. I'm not sure how that need balances with our current offering in 18.02, where we spend a good amount of time on vector calculus.

***TT*: What do you think are the biggest challenges that your successor will need to address?**

Sipser: There are many challenges around funding science. Science is often expensive, and MIT itself is expensive. If you want to have a group of students in your lab, it's a big challenge to raise the necessary funds. Federal funding is not keeping pace with the need.

***TT*: In what ways do you think the School of Science may look different in, say, 10 years?**

Sipser: These are more aspirations rather than predictions.I hope that our efforts at increasing diversity succeed. It's slow, but we're making progress. I also hope that MIT continues to lead in science, and that our community continues to ask the really big questions in science and makes progress in getting the answers.

SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE SCIENCE

LAB SPOTLIGHT

Engineering nuclear policy

The Lab for Nuclear Security and Policy works at the intersection of nuclear science and policy

By Laura Schmidt-Hong
ASSOCIATE EDITOR

As much as nuclear technology and engineering are rooted in physics and radiation, reactors and weaponry, they also involve stories of politics and negotiation, history and diplomacy. The gray decades of the Cold War and today's evolving landscape of nuclear stability and international relations are inextricable from the technology that drives them. This sort of interdisciplinary symbiosis inspires Scott Kemp's work in MIT's Laboratory for Nuclear Security and Policy (LNSP).

A physicist by training, Kemp first became interested in applying politics and history to nuclear science after working in international relations and realizing the need for technical expertise in policy making. Working in the State Department as a science advisor, he noticed that "there's a tremendous amount of policy, especially in the security space, that just makes no scientific sense whatsoever." He earned his PhD in Public and International Affairs from Princeton University, where he wrote two dissertation-length analyses: one in history and one in nuclear engineering. The works were "essentially on the same topic, but from two different perspectives," he said.

Now, as an associate professor of nuclear science and engineering and director of the LNSP, Kemp brings the same interdisciplinary focus to the lab. He works alongside physicists and chemists whose combined expertise enables them to solve problems and develop strategic tools.

Since its inception six years ago, the lab's research has focused primarily on developing effective methods for treaty verification. Such verification is necessary to ensure that each nation committed to a nuclear treaty truthfully reports the number of warheads in their arsenal. Ensuring accurate self-reporting requires both political and technological approaches.

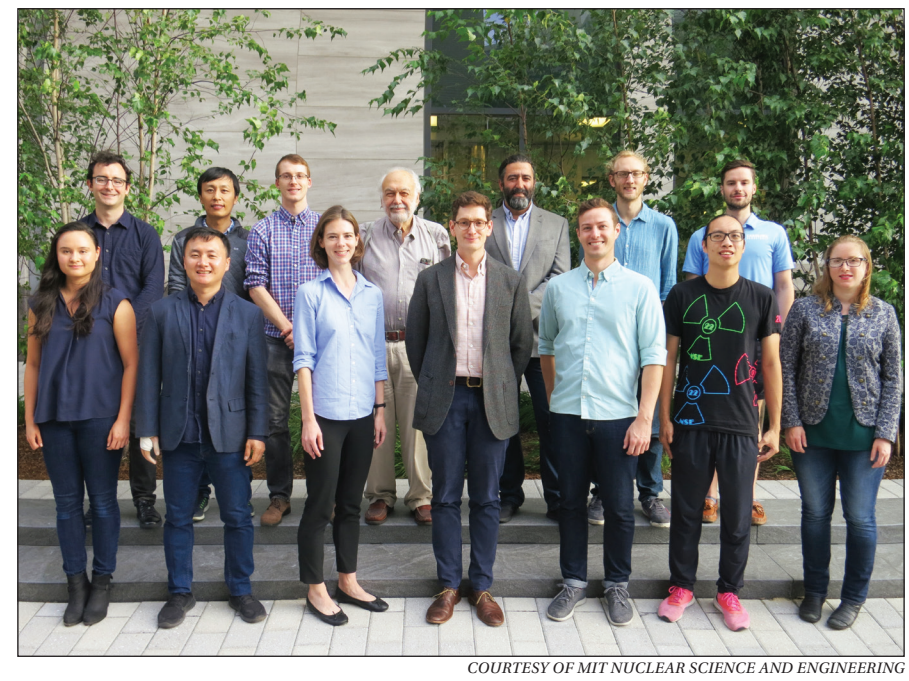
Inspired by information theory and cryptography, Kemp and Areg Danagoulian '99, professor of nuclear science and engineering, have developed direct warhead verification protocols that can, in principle, verify the authenticity of a nation's warheads while maintaining the secrecy of their design. Kemp explained that computers are rather poor tools to carry out such protocols: "all that does is put the burden of confidence on a computer system, and no one can prove that a computer does only what it's supposed to do and nothing else." Rather than using computers, they built physical systems that can apply information protection concepts. One such system is a physical implementation of a one-time pad — an encryption technique that involves a single-use key shared between two parties. This method is "the only provably secure form of encryption," said Kemp, making it uniquely useful for treaty verification. Another system, inspired by zero-knowledge proofs, returns a null result when it compares two identical objects.

The financial stakes of all these efforts are high. According to Kemp, the United States will spend over one trillion dollars over the next three decades revamping their nuclear arsenal. That spending hinges on the United States's conception of other nations' nuclear postures and doctrines.

Another necessary element of verification is reconstructing the history of nuclear weapons production programs, particularly secret ones. If one day the United States negotiates a disarmament agreement with North Korea in which it relinquishes its nuclear weapons, Kemp anticipates a new question: how can the United States know how many nuclear weapons North Korea should give up?

Analytical chemistry methods developed by the LNSP may provide the answer. In a collaboration with his colleague Michael Short PhD '10, professor of nuclear science and engineering, Kemp took advantage of the science behind alpha radiation and its effects on the microstructure of nuclear hardware. Uranium-238, the most abundant isotope of uranium found in nature, and uranium-235, the predominant isotope used in nuclear weaponry, emit alpha particles of different energies when they radioactively decay. As a result, they deposit energy at different depths, in what are known as bragg peaks, inside the materials that make up physical equipment, he said. In turn, scientists can estimate which isotopes of gaseous uranium are present in nuclear machinery by quantifying the radiation damage inside and applying conservation laws.

Kemp noted that this research manifests itself in the lab just like any other research, with one key distinction. "it's benchwork, and it's dirty... and it looks like any other lab," but "it's been selected to have this particular national security impact."



COURTESY OF MIT NUCLEAR SCIENCE AND ENGINEERING

MIT's Laboratory for Nuclear Security and Policy uses techniques like analytical chemistry and information theory to inform nuclear policy.

Ultimately, through their efforts, Kemp and Short have successfully developed a method to measure structural changes from radiation in the plastic gaskets used in nuclear plants. They are still working to apply the same approach to metal parts, whose chemistry makes them more difficult analytical targets.

The lab and its research have not been immune to recent changes in the politics of nuclear technology and security, however. Kemp had a hand in developing the Iran nuclear deal, through consultations with the State Department and meetings with Iranian officials. When the United States withdrew from the deal and Trump launched a dialogue with North Korea, the LNSP began exploring ways to bring North Korea "into the fold," Kemp said. In particular, he hopes to develop cooperative opportunities to increase the safety of North Korean reactors, manage its nuclear waste disposal, and use these efforts as a first step in building trust, he said.

Down the road, Kemp envisions the lab similarly extending its focus beyond nuclear security to "any kind of role technology might have" in existential security.

As they begin to explore the security considerations of decarbonization technologies, for instance, energy policy has captured Kemp and the department of nuclear science's interest. In seeking the "optimal path to decarbonizing the electricity sector," they hope to determine whether decarbonization technologies create or solve security problems. According to Kemp, vulnerabilities in the United States' electric grid can be secured with improved planning of how new generation and transmission technologies are deployed.

Through the lab's current and future work, Kemp ultimately hopes to maintain the interdisciplinary lines of thinking that have always inspired his and the LNSP's research. "In an era where technology has, in a sense, outpaced our morality," he said, it is necessary to understand that the "ability to use technology for good or for evil is so powerful that we need institutions and policies to deal with it."

In the long run, said Kemp, "if you want to use technology to effect positive change in the world, you first need to be equipped with the skills to understand how the world works."

THEATER REVIEW

Sweat: a brilliant production that steels the show

You can't see what's in front of you if there's sweat in your eyes

By Sharon Lin
STAFF WRITER

At a point in time when automation is replacing millions of jobs across the United States, Lynn Nottage's play seems more relevant than ever. Originally premiering at the Oregon Shakespeare Festival, *Sweat* is the culmination of two years of interviews with former steelworkers from Reading, PA. An Obie-, Tony-, and Pulitzer Prize-winning production, it tells the story of the working class in one of the poorest cities in America during the Bush administration.

When you walk into the Huntington, you are met with a stage that is barren save a black screen spanning across the front of the set. Besides the gilded leaves and towering blue bannisters, there's nothing that prepares you for the opening. A projector displays the date along with radio announcements of timely news headlines, a device that's used throughout the story to indicate the passage of time. As the play jumps backwards and forwards, aided by clever scene transitions, the story gradually narrows towards the unspoken climax of the plot.

It's a character-driven play in the truest sense. The complicated lives of the protagonists intertwine in unimaginable ways that cause tragedy after tragedy. In some sense, the story of the long-time steelworkers becoming replaced by temporary migrant workers is familiar. On the other hand, it's about the furthest thing from reality for urban, white-collar Bostonians. Middle-aged mothers Tracey and Cynthia have each put in around 20 years at Olstead's, the local steel plant, clocking in as soon as they graduated high school. When the managers decide that it's time to cut salaries and bring in migrant workers to replace the old-timers — and when the worker's unions decide to fight back — tensions start to rise. It doesn't help that Tracey's husband Brucie (Alvin Keith), who was locked out of work several years back and has since become an addict, tries to convince them to stop fighting and accept a deal. Stan (Guy Van Swearingen), an older steelworker who retires to bartending after an injury, sees both sides of the picture, and his attempts to calm down the patrons of his bar reveal the hidden motives and insecurities among the residents of the town.

While we don't get to see much of the characters' pasts, their histories are revealed through their conversations and reactions to one another. In the first scene, spotlights shine down on a prison officer and an inmate covered with Nazi tattoos. The interrogation between Jason (Shane Kenyon) and the officer reveals Jason's shame and provides some background for the complicated relationship he now has with his former best friend Chris. Both of their mothers work at the steel plant, and though they haven't put in as many years, it's just about the only life they've ever known. There's tension also between Cynthia, who eventually earns a promotion at the plant, and the other workers. Though her friends try to act as though it's no problem, they're obviously jealous of her new privilege. Tracey goes as far as to attribute her success to her race, claiming that the management was trying to increase diversity among their ranks. Later on, when management decides that it's time for layoffs, they see Cynthia's inability to change their decisions as a betrayal, and Cynthia is unable to resolve her guilt.

The pacing is varied but tight — every word counts in this story, whether it's moving the plot forward or revealing past drama between characters. In particular, a character we don't initially see as important, Oscar (Tommy Rivera-Vega), the busboy at Howie's Tap, ends up with a dramatic arc of his own, eventually intertwining with the lives of the workers in Reading in a tragic encounter. When he goes from underpaid shifts at the bar to accepting a new position at Olstead's, the regulars at the local watering hole are not pleased. Whether it's jeering at the "scabs" for making dollars on what they see as their rightfully earned wages or physical violence, the bar transforms into a hostile battleground.

The set is particularly well-designed: pieces move forwards onto the stage or drop down from the ceiling, limiting transitions needed to progress from one scene to the next. Howie's Tap features a hyper-realistic bar complete with beer on tap, wooden panel seating, and neon lights declaring available brews. It contrasts with the scenes in the prison — a barren brick wall painted shades of gray — and the alleyway behind the bar, where the characters occasionally come out to smoke. The smoke that lingers from the actors' cigarettes combined with the ambient sounds onstage turn the theater into a backlit street of its own during those scenes, though the choice to use real cigarettes was possibly an unwelcome surprise for theater-goers.

The actors performed phenomenally, carrying both the happy-go-lucky cadence of the 2000s and the emotionally charged dialogues eight years after. You don't get a sense for their range of abilities until you see how striking the difference is between the younger and older versions of the characters. While the younger Chris is playful and eager to strike against the plant, an older Chris clasps a Bible with shaking hands when he visits his mother, aware of the weight of his guilt and his mistakes. Jason is both visually changed (he acquires tattoos during his time in prison) and emotionally affected, and he is no longer able to face his mother when he is finally released. Tracey goes from being happy-go-lucky and flirtatious, with an attitude straight out of the Roaring Twenties, to a broken addict unable to leave her home or find any work. Meanwhile, Cynthia tries to hold herself together, but has clearly fallen from her peak years as a manager at the plant, however stressful her position may have been. In the second act, the four characters play out their homecoming side by side, with spotlights illuminating the encounters at each of the households after the boys are released.

> ***Sweat***
> **Written by Lynn Nottage**
> **Directed by Kimberly Senior**
> **Huntington Theatre Company**
> **Jan. 31–March 1**

Though much of the grind of daily life is light-hearted, there's also the physical toil of years of work that lingers behind. Tracey complains about her back troubles, and Stan's limp reminds us of the very real effects of injuries. The actors are able to display not only control in their language, but also in their performance onstage. In an intense brawl that occurs soon after an encounter between the workers laid-off from the plant and the new migrants, a carefully choreographed stage combat sequence plays out with Oscar, Jason, and Chris clambering at one another, throwing chairs and punches, and even breaking bones. The actors don't brush off their injuries, instead striking a balance between over-the-top flips and rapid-fire punches.

Nottage notes in her play that the setting is "Reading, PA, but It Could Be Anywhere." With radio headlines of candidates making promises to bring back jobs to rural America, we can clearly see how widespread the issues portrayed can be. From class and race relations to financial struggles and addiction, the realistic portrayal of the problems faced by Americans every day reminds us of how issues discussed on the campaign trail have a very real effect on people. It doesn't matter if the play is set in 2000, 2008, or even 2020 — when times are tough, even the strongest communities can fracture.

MOVIE REVIEW

For whom the spell trolls

Onward is Disney Pixar's tried and true formula applied to a magical world

By Rogers Epstein and Mahi Shafiullah
STAFF WRITERS

Saying something new about Pixar studios is hard — what have critics not analyzed about this studio whose cumulative movie repertoire boasts ten Academy Awards? Their formula of emotional roller coasters filled with dramas about family or identity has performed well quite a few times. *Onward* reapplies this formula through a fantasy world of magical beings. Well, once magical — Pixar flips this trope on its head by showing us how the population has accepted the ease of electricity over the difficulties of spell-casting.

Ian Lightfoot (Tom Holland), elf, 16, is our primary protagonist in *Onward*. Holland's naturally awkward act brings the shyness of Ian to life. His awkwardness in this story follows from Ian's lack of a father, whom he lost even before he was born. On his 16th birthday, through a magic spell, Ian finally gets a chance to meet him again. But when the magic spell that's supposed to bring him back for 24 hours gets stuck after only bringing the dad partially back, Ian and his older brother Barley (Chris Pratt) embark on a quest to restore him before next sunset.

Pixar constantly delivers on a pair of likeable protagonists who grow continually over the course of this adventure. Ian is a classically awkward, if not occasionally over-the-top, high school student who is struggling to find himself. He idolizes his dad, who he sees as the ultimate role model. His brother Barley is an entertaining foil for Ian, as he is much more confident in himself. We should also mention we thought he was particularly well-voiced by Pratt. Over their quest they confront their personal shortcomings together. And the way they do so in the end is actually quite tasteful, though a tad out of nowhere.

COURTESY OF DISNEY/PIXAR

Tom Holland voices Ian Lightfoot in Pixar's latest film, *Onward*.

While the main plot is definitely enjoyable to watch, *Onward* also has some fun but not always engaging B plots. With Ian and Barley lost in their quest, their mom Laurel Lightfoot (Julia Louis-Dreyfus) goes on an adventure of her own to find and help them. Yet, she doesn't give the audience much of a reason to care about her. The best part of her quest was probably enlisting the help of Corey the manticore (Octavia Spencer), who ends up being a more interesting character than Laurel. Meanwhile, the boys' police-centaur stepdad Officer Bronco (Mel Rodriguez) spends much of the time chasing after them in vain without really growing into the role of a father figure of the kids. Given all the details and promise of depth the movie insists on making with these side characters, it's odd to see so many of those promises barely fulfilled, or worse, hastily resolved.

The movie sometimes leans heavily into fantasy tropes to carry itself. A minute rarely goes by without some gag riffing on some magical trope. Some particular favorites of ours include a toll booth run by trolls and a centaur's neighing laugh. Additionally, many plot points are taken from a Dungeons and Dragons equivalent, which helps provide some baseline rules in a world of magic. The resulting spells and mystical creatures provide for some seamless and impressive visuals, perhaps to show off Pixar's position as one of the industry leaders in modern animation. That said, this movie had a particular lack of touching or memorable music, except for "Carried Me With You" by Brandi Carlile.

> ★★★☆☆
> ***Onward***
> **Directed by Dan Scanlon**
> **Screenplay by Dan Scanlon, Jason Headley, Keith Bunin**
> **Starring Tom Holland, Chris Pratt, Octavia Spencer**
> **Rated PG, Playing March 6**

As in any adventure, there are bound to be a couple of one-off encounters to give the heroes some obstacles to overcome. While there weren't too many instances of fluff, there were a few (particularly involving some pixies) that felt a tad dragged out or unnecessary, almost as if someone told a team of interns to each come up with one obstacle and then joined them together with no harmony between them to make the movie. Still, some scenes provided for some fantastic laughs, especially those involving the half-materialized, constantly bumbling dad. It's also hard to complain when the movie feels well-paced for the most part and runs for only 103 minutes.

Overall, *Onward* is a somewhat flawed film but delivers on most fronts what we'd hoped from Disney Pixar. Perhaps because we have been raised on a steady diet of Pixar films, we think *Onward* is still a movie worth watching, but to be very clear, it's no *Coco, Inside Out,* or *Wall-E.*

ART EXHIBIT REVIEW

Painting a clearer picture of Japanese culture

Harvard Art Museums present a wide selection of paintings donated by the Feinbergs

By Victoria Dzieciol
STAFF WRITER

Some people give gift cards as presents. Some give flowers. The Feinbergs, on the other hand, give an entire exhibition's worth of Japanese art. Harvard's latest and biggest art exhibition consists of more than 100 paintings from the couple's collection, all of which are from Japan's Edo period spanning the 17th to 19th centuries. Edo refers not only to this prosperous time but also to the contemporary center of Japanese culture, now known as Tokyo.

With the amount of thought that went into the design of the gallery space, it is as much a work of art as any of the paintings inside. Members of the team in charge took the long journey to Japan to better understand how to present the pieces in a culturally sensitive way. A lot of Japanese art is used privately, in domestic environments or temples — quite a big leap from the large-scale and formal atmosphere of public museums in the U.S. From the colors of the walls to the specially non-reflective glass, subtle decisions in the presentation attempt to lessen the contextual shock. The paintings are organized by themes or lineages, fanning out from the central room which acts as an introductory point. The display is more than the works inside; it is a whole new environment.

VICTORIA DZIECIOL — THE TECH

Painting Edo, on display at the Harvard Art Museums until July 26, showcases a variety of Japanese art from the Feinberg collection.

I was not surprised that this is the largest exhibit the Harvard Art Museums have ever featured. There were rows and rows of scrolls, dozens of fans, and seemingly endless rooms to wander into. And though the size of the collection was a little overwhelming, at no point did I feel that it was repetitive. Every piece was technically a painting, but that includes both screens and sliding doors. In addition, the works drew from so many different schools of Edo painting with vastly different styles that I felt I was entering a completely new exhibit every time I walked into another room.

Not much of an expert in Japanese culture, I attended the opening celebration for the show, which featured an insightful lecture by art history professor Timon Screech. The lecture offered both an analysis of select works and some of the rich context needed to better understand the pieces. Screech commented on the characteristics of the various Edo schools of painting, of which there were so many that my head spun. He described some of the strict customs that dictated the way art was made, including the so-called "self-portraits" of powerful officials as a work-around for the rule that artists were not of high enough status to look at them. He also spoke of some of the major events that influenced the artworks of the time, such as devastating fires in the city and the arrival of Europeans. What most surprised me was the prevalence of double meanings in Japanese, which often manifest themselves as symbols in the visual arts. The same word in Japanese means "government," "pine," and "correct," so painters would include the trees in their landscapes in support of the government, hoping it would last eternally the same way pines are evergreen. Other common symbols arose from the conventions of the time, such as long sleeves for unmarried women. Every image is overflowing with information; it just takes some background to be able to read it all.

Even without the lecture, *Painting Edo* is as much a history lesson as it is an art exhibit. The breadth of works makes it possible to compare stylistic differences across time, space, and lineage. The layout of the gallery makes it easy to discover the unique characteristics of each painting school. Just by looking at the paintings, I could see a little of what life may have been like, what clothes people wore, or what traditions were important to them. At the same time, by paying attention to the date of each piece, it's possible to get a sense of the fluctuations in harmony and prosperity during the period based on the number and quality of the works. Of course, the most historical information comes from the many paintings depicting major contemporary events or government-related scenes. Although it was all interesting, I was not quite prepared for the amount of brainpower that viewing this exhibit would require.

Luckily, the exhibit's visual appeal is as impressive as its historical value, so I could take a break to appreciate the aesthetics. Easily the most interesting aspect of the works in *Painting Edo* is the sheer difference between them and most of the art I experience. Scrolls compressed images to unusually long, narrow aspect ratios, while fans completely transformed the rectangular image into a curved one. Screens added a three-dimensional element, requiring viewers to walk around the piece to see every section and read it like a timeline. Silk gave the artworks a unique texture and transparency. In contrast to Western art, most images had no horizon lines, sometimes causing figures to be suspended in space with no sense of distance and other times creating a dreamy mood. Such a wide range of styles essentially guaranteed that everyone could find a piece that's perfect for them. There were extravagant artworks with large swaths of gold. Painstakingly careful brushstrokes made up sophisticated paintings of historical events, not a single line out of place. Others were deliberately raw with dynamic, sweeping curves. The minimalist in me was drawn to whimsical scroll paintings of the moon that left unpainted areas to the imagination. Delicate renditions of flora and fauna were done with near scientific accuracy. My personal favorites were the breathtaking landscapes of grand yet poetic mountainsides. Some were monochrome, placing focus on the formal lines of the picture, while others used colors so bright that it was hard to look away. The paintings had an unbelievable amount of detail; I felt I could spend hours with my face practically pressed against the glass case of one scroll and still never find every tiny figure.

Painting Edo: Japanese Art from the Feinberg Collection

Curated by Rachel Saunders and Yukio Lippit

Harvard Art Museums

On display until July 26

There's something about looking at art from such a vastly different time and place that feels extremely valuable. The historical significance of the pieces is hard to deny — they both reflect and create the culture of the Edo period. They are a production of their times, and yet the very fact that they were made and used impacted the Japanese people. Viewed in modern times, the paintings also become a way for people to understand the mindsets of people across cultural boundaries. The idyllic landscapes become a form of escapism, as a means of communicating the way the artist wished the world could be. Contemplating the Japanese artists' portrayal of Westerners — which makes them appear exotic even to Americans — gives us a different lens through which to view our own society and the way that cultures collide. The works in *Painting Edo* allow viewers to experience seeing differently and thereby question their own societal norms, aesthetics, and values. This exhibition is a perfect opportunity to grow your cultural understanding.

Painting Edo is on display for the rest of the semester and is free for students. There are also a number of free events planned for the future, including ongoing talks and tours, a public symposium March 19, and a lecture by Rachel Saunders on May 26. The museums will also host activities to bring the cultural traditions depicted to life, from fan-making to tea ceremonies. Whether it's for the events, the history, the beauty, or the culture, I highly recommend making the trek across Cambridge to visit the Feinberg's impressive collection.

CONCERT REVIEW

No gimmicks

Zack Villere sets himself apart by being himself

By Victoria Dzieciol
STAFF WRITER

In a society saturated by high-production, polished content everywhere from films to social media, artist Zack Villere chooses to stay exactly himself. The singer, guitarist, and songwriter independently grew an internet-based following through his unique sound and eccentric personality. Unafraid to be a little weird, Villere makes music that speaks to the outcasts and young people who aren't quite sure of their place in the world. A week after releasing his second album, *Cardboard City*, Villere came to Sonia in Cambridge to perform a concert just as candid as his music.

VICTORIA DZIECIOL — THE TECH

Zack Villere performs songs from his latest album *Cardboard City* at Sonia Feb. 22.

The opening act featured Mulherin, an underground R&B duo of twin brothers Marshall and Parker. Taking turns singing or harmonizing with their equally smooth, emotional vocals, the brothers set the mood with slow and heartfelt love songs. Relaxing guitar strums, drawn-out notes on a keyboard, and occasionally dreamy electronic elements accompanied their voices on their rhythmic ballads. Hearing them for the first time, I did experience points where the melody got lost on me. At other times, I was slightly disappointed by heavily auto-tuned vocals which, though an artistic choice, took away from the rich beauty of their natural voices. A couple of their songs also felt a little too sad and slow for my taste. But the brothers spiced up their repertoire with pieces featuring heavy bass and a steady beat, even performing an incredible cover of Usher's "Confessions, Pt. II." The duo unfortunately had to interrupt their performance a few times, once pausing to check a defective guitar pedal and sometimes redoing part of a song. But despite these minor setbacks, Mulherin managed to play songs that sounded pretty and drew on the emotions at the same time.

Following Mulherin's act, Villere took the stage in a striped shirt, oversized jeans, and pink Uggs. Everything about his entrance was informal: he paused to fix the audio in his headphones, talked to members of the crowd, and jokingly called out to the city of Phoenix rather than Cambridge. The stage was completely empty but for him, his backup guitarist, and a single microphone. When he was ready, Villere grabbed his guitar — a black, pointed one in the style of metal bands that he admitted was purely ironic — and began to play.

There were no drums, no electronic sounds, and no visual effects beyond a few lights. The only sounds came from the guitars and Villere's soft, captivating voice. He's a talented singer, yet with simple notes he gave the impression of not trying too hard. That was the case for most of the rest of the night — Villere and his other guitarist would pluck beautiful melodies as he sang the lyrics to songs from *Cardboard City* and his earlier work. Sometimes his voice would crack a little bit. Sometimes he would be so caught up in the music that his face would be full of emotion as he sang. His lyrics were specific and personal, and he would often play with the rhythm by extending a beat or half-singing, half-talking. All of it made him vulnerable and real.

His songs were short and calming, some slightly sad. Without drums they felt stripped and free-flowing. But he also interspersed them with songs that helped lighten the mood and speed up the pace. Some of his songs were funky, with upbeat electronic notes and a strong rhythm for dancing. Some were so full of joy that they took on an almost youthful quality. But, for the most part, his music was the type to appreciate quietly, swaying from side to side.

Villere talked a lot in between his songs. Showing his sarcastic sense of humor, he talked about his music, his life, and everything in between. He and his fans were essentially on a first-name basis, having quick conversations and poking fun at each other. Even while performing he didn't take himself too seriously — he played around with sound effects of famous rappers' ad libs in the middle of one of his songs, or changed every lyric he could to be "Tim Larew," the name of his manager. Spontaneously getting the idea to pay homage to Clairo, another artist who happens to be from Massachusetts, he gained the crowd's approval to cover one of her songs and then proceeded to hum half the lyrics because he couldn't remember. On paper, it sounds like the concert wasn't much of a performance. But the audience was there as much for Villere as they were for his music.

Zack Villere

Sonia

Feb. 22

A lot of artists have personalities that are relatively separate from their work. Their listeners may enjoy their songs but never care to interact with them. Villere's music, on the other hand, is a complete projection of who he is. After the concert, Villere hung around to talk to fans. I spoke to him briefly, and he was every bit as sweet and genuine as his songs make him out to be. With no embellishments to stand in the way, all of his thoughts and fears and emotions reach his listeners directly. Villere is funny and unconventional. He feels love and hope and insecurity. He is just as human as anyone listening, and he lets it be known. Being so open must take an immense amount of courage on his part. But it comforts those who listen by letting them know they're not alone.

Inspired

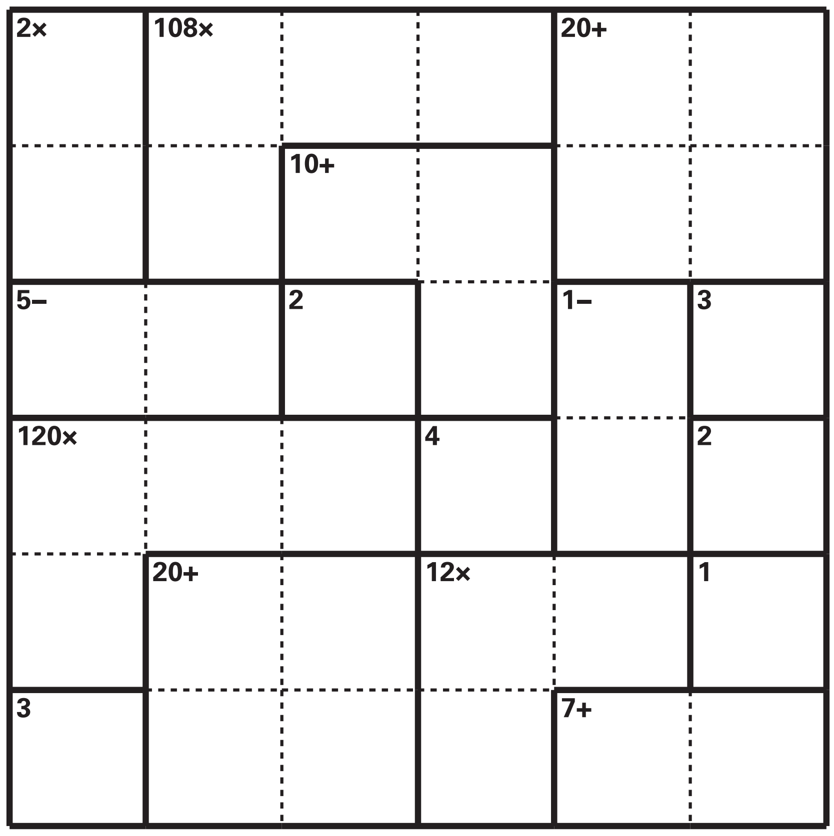
Solution, page 3

7			8					
		6		7		1		4
	3					2	7	
1	5		4			7		2
			2		1			
2		8			7		1	5
	2	5					3	
6		1		4		8		
					9			1

Instructions: Fill in the grid so that each column, row, and 3 by 3 grid contains exactly one of each of the digits 1 through 9.

Muses

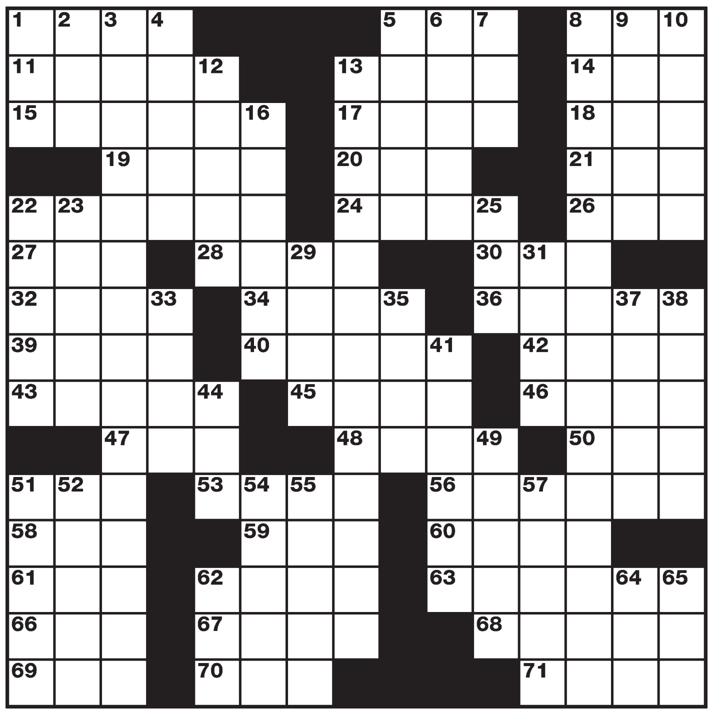
Solution, page 3



Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–6. Follow the mathematical operations for each box.

Around the Room by Charles Slack

Solution, page 3



ACROSS
1 Diplomacy
5 Ewe's mate
8 Shout of defiance
11 Traditional Arctic dome home
13 Bagel's center
14 Be indebted to
15 Basketball scoreboard tallies
17 Admired celebrity
18 Not at all strict
19 Actor __ Damon
20 Midmorning hour
21 Casino cube
22 Person strolling
24 How take-out orders are placed
26 Part of TGIF
27 Fish story
28 Not carefully considered
30 Health care pro's designation
32 Take the __ (make a bet)
34 Turndowns
36 Stray calf
39 Can't stomach
40 Air conditioning channels
42 Sicilian volcano
43 Hibachi residues
45 Plumbing problem to "plug"
46 As a result
47 __ out a living
48 The same, in a footnote: Abbr.
50 Before, in poems
51 Statute
53 Husband of a countess
56 Feeling offended
58 __ carte menu
59 Hawaiian garland
60 Ring loudly
61 Nothing at all
62 Metallic money
63 Physically robust
66 Baseball great Ripken
67 Installed, as wallpaper
68 Ice-cream serving utensil
69 Half of a figure eight
70 Driver's license and SSN
71 Drops the ball, literally or not

DOWN
1 Helpful hint
2 Long, long __
3 Was bored and anxious
4 Melodic
5 Contest for cowpokes
6 Go __ for the ride
7 Actor Gibson
8 Giving a legislative speech
9 Hang around for
10 Witch's curses
12 Playful aquatic animal
13 Get very angry
16 Piece of spaghetti
22 Waikiki welcome
23 "Golden touch" king
25 Antiquated
29 Nary a __ (no one)
31 Verse writer
33 Hunt for
35 Wild guess
37 Become accustomed (to)
38 Alleviated
41 Cuts corners
44 "__, I told you so!"
49 Food plans
51 Joust weapon
52 Assumed name
54 So all can hear
55 Bridal straps
57 Madcap comedy
62 Illinois city, for short
64 "Neither snow, __ rain . . ."
65 Family MDs

dormspam;

by Gloria Lin

Career Fair: 2 types of people

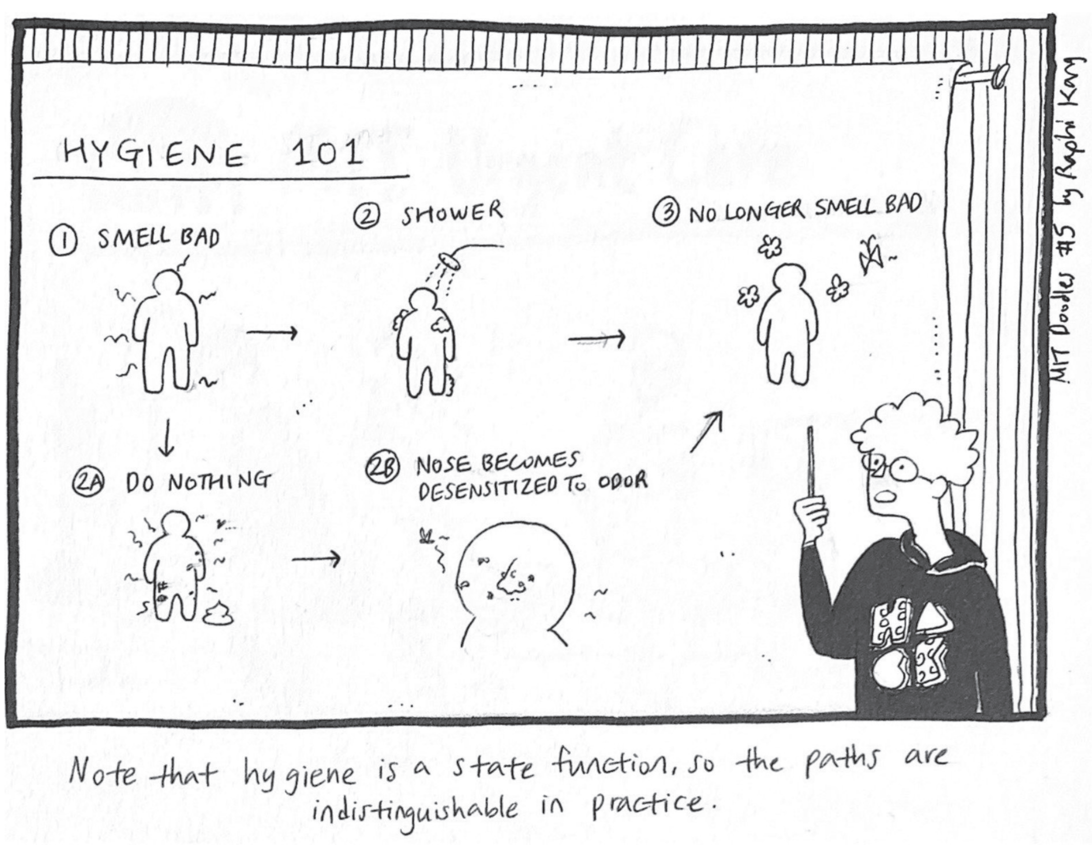
Awestruck

Solution, page 3

96×	25+				240×			
	9		13+		56×			12×
	40×			18×			3–	
10×			7	27+				8
30×		54×				144×		12×
294×		2×		360×				
	8		19+				15×	
54×		24×			6×		315×	
		48×			140×			

Instructions: Fill in the grid so that each column and row contains exactly one of each of the numbers 1–9. Follow the mathematical operations for each box.

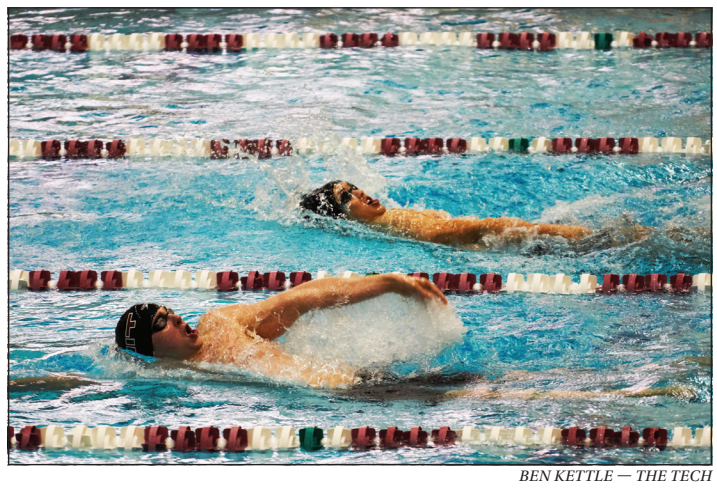
MIT Doodles #5 by Raphi Kang



SWIMMING AND DIVING

MIT Men's and Women's Swimming and Diving both win NEWMAC championship

Women's and men's teams earn 10th and 12th consecutive titles, respectively



BEN KETTLE — THE TECH

Henry Hu '21 (top) and Adam Janicki '23 (bottom) of MIT Men's Swimming and Diving swim in the men's 200-yard backstroke final in the NEWMAC championship Sunday.

By Suleman Thaniana
SPORTS EDITOR

The New England Women's and Men's Athletic Conference (NEWMAC) Men's and Women's Swimming and Diving championship was held at the MIT Zesiger Sports and Fitness Center Pool from Thursday, Feb. 20 to Sunday, Feb. 23. The men's team finished first with 1535 points, while the women's team finished first with 1356.50 points. At the conclusion of the fourth day, Bouke Edskes '20 was named the NEWMAC Men's Swimmer of the Year for the third straight year while Adam Janicki '23 was named the NEWMAC Men's Rookie of the Year. In the women's categories, Edenna Chen '23 was named the NEWMAC Women's Rookie of the Year and Blake Zhou '20 was named the NEWMAC Women's Diver of the Year.

The men's team set a number of records and victories over the four-day championship. They started off on the first day by breaking the meet, open, pool, and program records in the 800-free relay with a time of 6:37.29. The 800-free relay consisted of Alex Ellison '22, James Richardson '23, Kevin Fang '21 and Edskes. On the second day, the team broke four records, including the 200-free relay consisting of Sam Ubellacker '20, Justin Liu '21, Emilio Sison '20, and Kyri Chen '22. Later, Trevor Carter '23 claimed the league title in the 500-free with a time of 4:30.18 and Ubellacker broke the NEWMAC meet record time in the 50-free with his swim of 20.00 seconds. Last, Tim Kralj '20, Henry Wang '23, David He '22, and Liu won the final of the 400-medley relay in a time of 3:21.55.

On the third day, in the diving well, Jay Lang '22 broke the MIT program as well as the NEWMAC meet and open records with his preliminary score of 605.10. He returned to finals as the top-seed and scored 587.30 points for the conference title. Later on the third day, the 200-medley relay 'A' team of Henry Hu '21, Chen, Edskes, and Ubellacker closed the night session by breaking the NEWMAC meet record with a time of 1:28.51, just 0.03 seconds shy of tying the NEWMAC open record. The medals and records did not end as the final day's time trial session began with Edskes breaking the national record in the 100-I.M. with a time of 49.18, followed by him breaking the meet record for 200-fly with a time of 1:47.33. This was followed by Jordan Ren '22 breaking the NEWMAC meet, NEWMAC open, and MIT program record in the 200-breast as he won the event with a time of 2:00.60. The Engineers closed the championship with another meet record as the quartet of Ubellacker, Ellison, Liu, and Chen won the 400-free relay with a time of 2:58.45 to win the final event of the night. Over the course of the meet, Men's Swimmer of the Year Edskes won five events and set four meet records.

The women also made the MIT community proud with their excellent performances. This started off with a day-one victory in the 800-free relay comprised of Hannah Mahaffey '21, Lindsey Bjornstad '22, Laura Rosado '22, and Shannon Hagmaier '22. On the second day, MIT women's 200-free relay team smashed the NEWMAC meet, NEWMAC open, MIT pool, and MIT program record with a swim of 1:33.30. The 200-free relay team consisted of Olivia McGrath '21, Lilia Staszel '20, Hagmaier, and Bjornstad. Alongside the relay, the women grabbed four other gold medals in the pool, including the 400 medley relay. In the diving well, MIT swept the top two spots on the 3-meter board. Deborah Wen '21 claimed the league title with a qualifying score of 526.85, while Zhou took home second place with a qualifying score of 517.75.

On the third day of the meet, the women earned two medals alongside various other top finishes. The 200-medley relay 'A' team of Nanette Wu '20, Chen, McGrath and Staszel broke the NEWMAC meet record with their swim of 1:43.25. This was followed by Chen's excellent swim in the 100-breast as she broke the NEWMAC meet record with a time of 1:02.29. On the final day of the meet, Chen claimed top honors with her first place finish in the 200-breast while Mahaffey claimed the league title in 200-fly. In the diving well, Zhou claimed the 1-meter conference title with a score of 505.15. To conclude the meet, the Engineers won the 400-free relay with a time of 3:27.19. The four Engineers who made up the relay were Delaney Burns '20, Rosado, Bjornstad, and Hagmaier.

Due to their outstanding performance in the NEWMAC championship, the swimmers will next travel to Greensboro, North Carolina for the NCAA Division III Championship, to be held at the Greensboro Aquatic Center from March 18 to March 21.

Upcoming Sports Events

Men's Lacrosse
vs. RPI
Saturday, February 29
3:00 p.m.

Men's Lacrosse
vs. UMass Dartmouth
Wednesday, March 4
4:00 p.m.

Men's Tennis
vs. Colby-Sawyer
Wednesday, March 4
4:00 p.m.

SPORTS BLITZ

- **Women's Tennis** brought their record to 2-0 after a 9-0 shutout against Vassar College on Saturday.
- **Men's Tennis (0-1)** was defeated 7-0 by Boston University in their season opener.
- **Women's Basketball (13-11, 7-3 NEWMAC)** won two games against Wellesley College (54-50) and Wheaton College (76-69) this week.
- **Men's Basketball (12-13, 5-9 NEWMAC)** won against Clark 89-64 and earned a 59-55 victory against WPI on their senior day this week.
- **Women's Swimming and Diving** competed in the 2020 NEWMAC Championship this weekend, claiming victory over the nine other teams at the championship. MIT earned 1356.5 points, a 469.5-point lead over the second-place team, Wheaton College.
- **Men's Swimming and Diving** took home the crown in the 2020 NEWMAC Championship this weekend, placing first of seven teams. The men's team earned 1535 points, 406.5 points ahead of the second-place U.S. Coast Guard Academy.
- **Women's Fencing (13-19)** finished second out of 13 teams at the New England Intercollegiate Fencing Conference Championship this weekend. MIT placed first in sabre, third in foil, and fifth in épée.
- **Men's Fencing (15-15)** won first place among 12 teams at the New England Intercollegiate Fencing Conference Championship this weekend for the second year in a row, placing first in épée and sabre and second in foil.
- **Rifle** finished third behind the U.S. Coast Guard Academy and Army at the NCAA Qualifier in West Point this weekend.
- **Women's Track and Field** competed at the Springfield Triangle Classic this weekend, earning two event wins in pole vault and the 800 meters.
- **Men's Track and Field** claimed five event wins at the Springfield Triangle Classic, including the 800 meters, the 400 meters, and the shot put.